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ABSTRACT

Age trends in conformity and independence, using a sample of 366 children from the 1st, 4th, 7th, and 10th grades were investigated. Three types of stimuli were used: (1) visual judgments; (2) opinion statements; and (3) delay of gratification preferences. Age-trends were observed for unanimous peer pressure, adult influence, and peer pressure with social support from a partner. Unanimous peer pressure yielded decreasing conformity across age, being more pronounced for males than for females. Adult influence declined over age for both sexes. Social support from a partner who gave correct or modal answers reduced conformity to a constant low level across all ages. The report concludes that mechanisms of group influence are highly similar across age, and that age trends may reflect variations in situational factors associated with age differences. Hence, the variable of age may be of limited value, in itself, in studying peer influence. (Author/TL)

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THE DEVELOPMENT OF CONFORMITY AND INDEPENDENCE

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Technical Report No. 164

THE DEVELOPMENT OF CONFORMITY AND INDEPENDENCE

by
Vernon L. Allen and Darren Newtson

Report from the Project on
Role Theory Analysis of Peer-Teaching Techniques

Vernon L. Allen, Principal Investigator

Wisconsin Research and Development
Center for Cognitive Learning
The University of Wisconsin
Madison, Wisconsin

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This Technical Report is from the Peer Group Pressures on Learning Project in Program 1. General objectives of the Program are to generate new knowledge about concept learning and cognitive skills, to synthesize existing knowledge, and to develop educational materials suggested by the prior activities. Contributing to these program objectives, this project is directed toward identification of the effects of peer group pressures on the utilization of concepts already learned and on the learning of new concepts.

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ABSTRACT

Age trends in conformity and independence were investigated in an Asch kind of conformity situation with 366 children from the First, Fourth, Seventh, and Tenth Grades. Three types of stimuli were used: visual judgments, opinion statements, and delay of gratification preferences. Age-trends were observed for unanimous peer pressure, adult influence, and peer pressure with social support from a partner. Unanimous peer pressure yielded, in general, decreasing conformity across age, being more pronounced for males than for females. Adult influence declined over age for both sexes. Social support from a partner who gave correct or modal answers reduced conformity to a constant low level across all ages. It was concluded that mechanisms of group influence are highly similar across age, and that age-trends may reflect variations in situational factors associated with age differences. Hence, the variable of age may be of limited value, in itself, in studying peer influence. Direct investigation of situational variables associated with conformity—and only indirectly with age—might be a more useful research strategy.

I
INTRODUCTION

In a recent exhaustive survey of research on peer interaction Hartup (1970) discussed available data dealing with age trends in social influence. Concluding the section on peer influence, he states, "... it is remarkable that the research is so thoroughly consistent in showing that the functional relation between age and peer conformity is curvilinear, and that middle childhood is generally the period of greatest responsiveness to normative influence from peers [p. 411]."

These data from age-trend studies are interpreted by Hartup (1970) as supporting Piaget's (1932) conception of social stages. Piaget suggested that children pass from a presocial or egocentric stage to a stage of absolute conformity to social rules lasting from ages 5 to 8. The second stage gradually gives way around age 10 to essentially mature conceptions of social norms. From this stage conception, one could predict increasing conformity to peer influence in early childhood, peaking at age 5-8, then decreasing and remaining at a relatively low level. A closer look will disclose some difficulties in the application of Piagetian theory to the area of conformity.

By adapting Piaget's (1932) theory of moral development to conformity, Costanzo and Shaw (1966) offered an explanation for their curvilinear findings. The period of greatest conformity in their study occurred at age 11-13, yet they used Piaget's description of the stage occurring at age 5-8 for an explanation of this high conformity. Piaget's stage explanation was applied to the wrong age. Furthermore, a careful reading of Piaget indicates that the implications of his ideas for conformity are quite equivocal. According to Piaget (1932), in the second stage of social development (age 5-8) the child "... begins to want to play in conformity with certain rules received from the outside... From the moment that the child begins to imitate the rules of others, no matter how egocentric in practice his play may be, he regards the rules of the game as sacred and untouchable; he refuses to alter those rules and claims that any modification, even if accepted by general opinion, would be wrong." [P. 54, emphasis ours.]

Contrary to the interpretations of Costanzo and Shaw (1966) and of Hartup (1970), then, Piaget's theory does not imply that susceptibility to influence will be high, but that children at this stage (age 5-8) will be extremely rigid in following rules—even to the point of being independent of peer influence that attempts to change the rules. Hence, whether one can conclude, on the basis of Piaget's theory, that conformity should be high or low at this stage (age 5-8) remains somewhat unclear. Norms and rules seem to be very explicit at this early age, which makes conformity pressure easier to exert. Greater adherence to norms at this time might occur, then, without necessarily being the result of greater "influenceability" at this age. Piaget's description of the nature of norms at this stage also clearly suggests that under certain conditions the child will be independent of the group.

In Hartup's (1970) review some inconsistencies in the existing data concerning the curvilinear relation predicted (perhaps incorrectly) from Piagetian theory are noted: peak conformity occurring as early as 9 years and as late as 15 years has been reported. Hartup used three studies (Constanzo & Shaw, 1966; Iscoe, Williams, & Harvey, 1963, 1964) as a basis for concluding that age and conformity are related in a curvilinear fashion. These three studies deserve further critical discussion.

Iscoe, Williams, and Harvey (1963), in a normative study of the age-conformity relationship, found that conformity on a click-counting task increased from age 7-9 to 11-13 for both males and females. Males showed increasing conformity up to age 15, while conformity decreased for females from the 11-13 peak to age

15. A second study (1964) by the same authors failed to replicate this sex difference.

Both Negro and white children participated in the second study. Combining scores across all subjects, mean conformity over age was curvilinear, peaking at age 12. But an analysis of variance yielded a significant interaction between age and race. Examination of the age-conformity relation separately by race showed the expected curvilinear relation only for Negro subjects (Iscoe, Williams, & Harvey, 1964, p. 457, Figure 3). Conformity for Negro children increased from age 7 to 9, and then decreased. For white children replication of the 1963 study was, however, questionable. Conformity decreased from age 7 to 9, increased to age 12, and then decreased to age 15. These differences appear to be quite small, but means tests were not reported. It is possible that the statistical significance of these findings (only F tests were reported) was due entirely to age changes occurring in the Negro sample. Both the 1963 and 1964 studies reported higher conformity for white females than for white males, but the second study found a reversal of this sex difference for Negroes.

In the third study used by Hartup (1970) in his review, Costanzo and Shaw (1966) reported a strong curvilinear relation between age and conformity. Conformity increased from age 7-9 to 11-13, with a continuous decrease thereafter through ages 15-17 and 19-21. In addition, questionnaire data were obtained on subjects' perception of the cause of disagreement between themselves and other group members. Frequency of reasons attributed to self for disagreement with the group closely paralleled the conformity-age relation, yielding a point-biserial correlation of .87 with conformity. Costanzo and Shaw interpret their findings as being consistent with Piaget's analysis. They suggest that the data reflect an increasing awareness of social pressure up to age of puberty, with a corresponding decrease in self-confidence. Decrease in conformity in post-adolescence and early adulthood results, in their view, from increased self-confidence as one learns to cope effectively with his social environment.

The Costanzo and Shaw (1966) results represent the strongest and clearest evidence in the literature for a curvilinear relation between age and conformity: no significant sex differences appeared, and results were nicely buttressed with plausible questionnaire data. Unfortunately, there is a serious methodological problem in the study. Using a line-judgment task, they reported only two errors in their entire sample on a total of 480 pre-experimental, non-pressure trials. They assert that, "This result indicates that the errors made under pressure conditions cannot be attributed to the difficulty of the task" (Constanzo & Shaw, pp. 970-971).

A careful examination of Constanzo and Shaw's (1966) procedure shows that the conclusion is unjustified. In groups of four, subjects received general instructions on using a modified Crutchfield conformity apparatus. Following these instructions, "...each person was assigned the number '4'. When the Experimenter was sure that everyone understood the instructions, five practice trials were administered..." (p. 970). All trials must have been presented with the subject answering fourth, preceded by three simulated subjects giving the correct answers, since five "nonpressure" trials for each of the 96 subjects yields the 480 judgments reported. Task difficulty was therefore not controlled: conformity to the simulated group's correct answers on these trials could have masked age differences in task difficulty or in attention. Differences in the line lengths were quite small (1/4 inch)—which suggests that the discrimination task may have been somewhat difficult. Information on task difficulty is crucial for interpretation of the results, since the conformity measure was simply the average number of errors in discrimination at each age level, rather than the difference score between responses given alone and under group pressure.

Subsequent to Hartup's review of the literature, two other pertinent experiments have appeared by Hoving and coworkers (Hamm & Hoving, 1969; Hoving, Hamm, & Galvin, 1969). Results of these studies seriously question Hartup's conclusions regarding curvilinearity of the age-conformity relationship. Hoving and colleagues noted inconsistencies in age-conformity results across studies; for example, both Berenda (1950) and Hoving (1964) have reported a linear decrease in conformity across limited age ranges, in contrast to results of studies cited earlier. Comparison of the tasks employed in the several studies led Hoving, et al. (1969), to suggest a means of resolving these conflicting results They noticed that one factor has apparently varied considerably across studies—degree of ambiguity of the task. Ambiguity was defined in terms of the clarity with which the pressure group's position differed from the objectively correct alternative. Hoving, et al. (1969), designed a study using a visual judgment task, and varied the discriminability of the objectively correct alternative. Results of the study disclosed that: (a) on an unambiguous task conformity decreased through Grades 2, 5, and

8; (b) on an ambiguous task conformity was, however, positively related to age; and (c) on a task of intermediate ambiguity the conformity-age relation was curvilinear, similar to that reported by Costanzo and Shaw (1966) and Iscoe, et al. (1963).

The measure of conformity in the Hoving, et al. (1969), study was mean judgment error under group pressure corrected by mean error on a non-pressure control series, where each subject answered alone. For the completely ambiguous condition "error" correction was therefore somewhat arbitrary. Because of this problem, Hamm and Hoving (1969) replicated the completely ambiguous condition using autokinetic judgments as the task. Subjects were 7-, 10-, and 13-year olds. As in the first study, conformity increased with age.

Hoving, et al. (1969), interpreted their results in terms of "normative" and "informational" motivational systems. They posit a "need to be correct" and a "need for peer approval," both of which are assumed to increase with age. These needs presumably reflect the accumulation of experience gained through social learning. The observed decrease in conformity over age on unambiguous items is due to the increasing need to be correct; the increase in conformity over age on ambiguous items is a function of increasing need for peer approval. Degree of ambiguity of the task is important in understanding the age-conformity relation, according to Hoving, et al. (1969), because older subjects view the two motivational systems as being inter-related. That is, being correct is increasingly linked to peer approval. In the absence of an obviously correct answer, older subjects can serve both needs by conforming; when a clearly correct answer is available, older subjects can serve both needs by remaining independent.

These investigators stop short, however, of offering a clear interpretation for the intermediate ambiguity condition. They suggest that a partially ambiguous judgment reduces the need to be correct, and at the same time is compatible with the need for approval. It is not clear how this explanation could account for a curvilinear relation between conformity and age without additional assumptions about the rate of increase in approval and accuracy needs or the consequences of conflict between two needs.

Several important issues concerning the age-conformity relation are still unresolved. Conformity to peer influence does not appear to be a simple, curvilinear function of age as concluded by Hartup (1970); the shape of the relation changes quite dramatically as a function of nature of the task, as Hoving's research nicely demonstrates. A close correspondence between peer influence and developmental stages, which could be predicted from Piaget's (1932) theory, has not been convincingly demonstrated. Another problem concerns the psychological processes underlying social influence at different stages of development. As Hartup (1970) points out, "We do not yet know whether there are unique forms of social influence occurring in the interaction of children with age-mates" (p. 404). The present study was designed to further our understanding of these issues by extending and improving previous research. Four issues of theoretical importance were investigated.

First, the relation between age and conformity to peer group norms was scrutinized once again, but methodological improvements were introduced that should increase confidence in the results. In earlier studies the group typically gave the same absolute answers across all age levels. Differences in subjects' accuracy or understanding of the task at different ages would result in variation across age levels of the distance between the pressure group and the subject. Several studies have shown that distance of the group norm from the individual's own position strongly affects degree of conformity (Allen, 1965). In previous developmental studies of conformity the position of the group norm has not been controlled across age. In the present experiment this variable was held constant by maintaining, at each age level, a constant relative distance between the position of the group and the modal score obtained from subjects' answering alone (privately).

Second, the effectiveness of social support in reducing conformity was investigated across age. Social support, i.e., presence of a partner agreeing with the subject in opposition to the pressure group, dramatically reduces conformity for adults, but has not been investigated with children. Independence produced by social support is one of the most stable findings in the conformity literature, and has cast considerable light on the mechanisms underlying group influence (Allen & Levine, 1968, 1969, 1971; Asch, 1951). Marked difference in the effectiveness of social support in inducing independence across age levels would suggest that different psychological processes underlie conformity at different ages.

Third, opinion statements and delay of gratification preferences were included as stimuli, as well as visual judgments. Previous studies have employed only objective, skill-related tasks, such as visual judgments. It is unclear

how such items relate to the dimension of task ambiguity. The Hoving, et al. (1969), definition of ambiguity is itself rather ambiguous in failing explicitly to distinguish between two aspects of ambiguity. The critical aspect of task ambiguity that interacts with age could be either: (a) degree of objective correctness (and hence empirical verifiability) of responses or (b) clarity with which the group's position differs from the subject's own position. In using items of low empirical verifiability, such as opinion and delay of gratification items, and by placing the group norm at a position clearly discrepant from the subject's position, the present study can help resolve this issue.

Fourth, the present study compares directly the relative effect of peer influence and adult or authority influence. Age-trend data on adult influence that can be directly compared to peer influence have not been obtained on value-free judgments (Hartup, 1970). A comparison of peer and adult influence may help explain patterns of social influence across age. Similar patterns over age for conformity to peers and adults would suggest the operation of a general "influenceability" factor. Lack of correspondence over age between conformity to peer and adult influence sources would suggest that differential changes across age of the social relationship between the individual and the two influence sources might account for age trends.

II
METHOD

SUBJECTS

Subjects were 366 children enrolled in the First, Fourth, Seventh, and Tenth Grades of the Oconomowoc, Wisconsin, school system. The sample included 58 First Graders (29 males and 29 females), 110 Fourth Graders (55 males and 55 females), 114 Seventh Graders (59 males and 55 females), and 84 Tenth Graders (44 males and 40 females).

APPARATUS

A standard Crutchfield (1955) apparatus was used to measure conformity. The apparatus consists of five booths, signal lights and answer switches in each booth, and a master control panel for controlling simulated group answers and recording subjects' responses. A slide projector and screen in front of the room were used to present the items. Each subject's booth contained a panel of 45 green lights, in nine rows and five columns. At the left of the green lights were five red lights used to designate subjects' answering position. Below the nine columns of answer lights were nine switches used for responding to the visual judgments. Above the first five answer switches were printed the answers to be used for opinion statements: "Strongly Disagree," "Disagree," "Neither Agree nor Disagree," "Agree," and "Strongly Agree." The booths were separated by partitions that limited the subject's view to his own panel and the screen in front of the room.

From the master control panel the Experimenter controlled the signal lights appearing in each subject's booth. Each of the five subjects was led to believe that he alone answered last in turn in the group; actually, the Experimenter simulated the first four responses in a pre-arranged manner.

DESIGN

A three-factor analysis of variance design was used. The three factors were: (1) grade (First, Fourth, Seventh, and Tenth), (2) sex of subject, and (3) experimental condition (unanimous group, social support, and adult pressure). In addition, three types of stimuli were used (visual, opinion, delay of gratification). Each subject participated in only one of the three experimental conditions described below.

In the Unanimous Group condition the group of four (simulated) persons gave extremely incorrect or unpopular answers on half the trials (pressure trials) prior to the subject's turn to answer. On the other half of the trials the answers of the group were correct or popular.

In the Social Support (partner) condition, the first three persons in the group gave the same extremely incorrect (or unpopular) answers on pressure trials as in the Unanimous condition, but the simulated subject in position four gave the correct or popular answer, in disagreement with the other three subjects. On neutral trials all four simulated subjects gave the correct or popular answer.

In the Adult Pressure condition, the following instructions were given to subjects: "To make this more interesting for you, before you give your answers I will tell you how three _____grade teachers (same grade as subject) answered the same questions. We gave them the same questions you will answer. After you hear me give your teacher's answer, please turn on the switch which indicates the answer you think is correct." After reading the question for each slide the experimenter called aloud the teachers' alleged answer. On the pressure trials E announced the same extremely incorrect or unpopular answers given by the group in the other two conditions. For the other half of the trials, the correct or popular answer was announced.

STIMULI

A series of 24 stimulus items was used: 12 visual items, 6 opinion items, and 6 delay of gratification items. Half of the items of each type received group pressure, and half were neutral. Thus, 12 neutral and 12 pressure items were distributed evenly across the stimulus series.

Visual items required subjects to match a standard visual stimulus with one of nine comparison stimuli. For example, a vertical line was matched in length with one of nine similar comparison lines. Visual items were answered by choosing one of the nine switches corresponding to the nine comparison stimuli. Opinion items consisted of statements such as, "Kittens make good pets," or "On weekends, students my age should be allowed to stay up later than on school days." Examples of delay of gratification items are, "I would rather have a half-dollar today than one dollar tomorrow," and "I would rather have one free stick of chewing gum today, than wait until tomorrow and get 1-1/2 free sticks of chewing gum." Opinion and delay of gratification items were answered by pressing one of five switches labeled from "Strongly Agree" to "Strongly Disagree." To prevent confusion the five answers also appeared on each of the opinion and delay of gratification slides.

In order to construct group pressure responses of constant difficulty across the age groups, standardization data were collected for the pool of items prior to the experiment. Visual opinion and delay of gratification items were administered to subjects at all grade levels. After obtaining the distribution of responses at each grade level, items having a low variance were selected for use as group pressure items in the experiment. For visual items, the simulated group's answer on pressure trials was located one scale point (on the nine-point scale) beyond the 99th percentile of the standardization distributions, calculated separately by grade. For opinion and delay of gratification items, the pressure group's answer was placed at a point beyond the 99th percentile of the distribution whenever possible, but due to the greater variability on these items and the truncated (5-point) scale, the group's pressure response sometimes had to be located at the 95th percentile of the class distribution. For neutral items, the group's answer was located at the modal position of answers given by the standardization group.

Order of items was identical for all three experimental conditions, but the exact location of group pressure differed somewhat from grade to grade, as a function of the criterion described above. The methodological superiority of this technique of locating the group response, as contrasted to procedures used in other studies, should be noted. Standardizing the location of the group pressure response according to private answers at each age level assures that item difficulty and variability are controlled, a particularly important consideration if one wishes to compare data across different age groups.

PROCEDURE

All subjects participated in two sessions approximately 1 week apart. In the first session the experimenter (E) was male; in the second the experimenter was female. During the first session stimuli were presented in class, and subjects recorded their responses privately in a booklet. The experimenter was introduced as making a statewide survey in the schools. It was emphasized that the procedure was not a test, and that teachers would not know the answers given.

Approximately 1 week after the first session, subjects were summoned from the classroom in same-sex groups of five. Subjects were randomly selected from the classroom, and each group was randomly assigned to one of the three experimental conditions. Subjects in the Unanimous Group and Social Support conditions were seated at the five booths of the conformity apparatus, and given instructions and practice trials. Practice trials were designed to convince subjects that each person answered in a different position, and that the other lights on their panels indicated answers of the other four persons. After four practice trials, E questioned subjects to make certain they understood the procedure, and gave additional instructions as needed. Particular care was taken to ensure that subjects in the lower grades clearly understood the task and the operation of the apparatus.

In the Unanimous Group and Social Support conditions subjects were placed in the fifth (last) answering position throughout the experimental session, and responses shown on all subjects' panels were henceforth supplied by the experimenter. As each slide was presented the experimenter read the appropriate question. In the case of opinion and delay of gratification items, E read the statement as well. Procedure for the adult pressure condition differed. Subjects were simply given instructions on how to respond by using the apparatus; they did not see responses of other group members.

Following presentation of the 24 items, a questionnaire was administered that assessed (in appropriate conditions) perception of the

social supporter, reactions to other group members, and knowledge of deception. The Tenth, Seventh, and Fourth Graders answered the questionnaire by writing the answers themselves; for the First Grade subjects, two female interviewers asked the questions and recorded the answers given.

METHOD OF ANALYSIS

Data consisted of a mean conformity score for each subject, calculated separately for each of the three types of items. For visual stimuli this score was based on six critical items; for opinion and delay of gratification stimuli, it was based on three critical items for each. Scores were obtained by taking the difference in scale points between the subject's public answer to an item under group pressure, and his private answer on the same item given during the earlier standardization test. If the subject shifted his answer towards the group pressure position, it was scored as positive; if he moved away from the group, it was scored as negative. The algebraic mean of these item scores was then computed by type of item.

When a subject's answer on the standardization session fell on or beyond the pressure point on an item, his score for that item only was excluded from the analysis, since he was not subjected to group pressure. This occurred 10 times in the First Grade, 11 times in the Fourth, 8 in the Seventh, and once in the Tenth Grade, and involved 16 females and 14 males. No subject was dropped completely from the analysis.

A harmonic means analysis of variance was performed on mean conformity scores for each type of item, and a trend analysis (Grant, 1956) conducted across the four grades within each condition. Questionnaire data were coded by judges, and frequency counts made for the four grades.

RESULTS

Summary tables for the analyses of variance are reported in Table 1. Highly significant Grade and Conditions effects were obtained with all three types of stimuli. In addition, visual items yielded a Condition by Sex interaction, and delay of gratification items yielded a Sex by Grade interaction. The three-way interaction for delay of gratification preferences, Conditions by Grade by Sex, reached significance. Analysis of variance on opinion items yielded a significant Conditions by Grade interaction.

CONFORMITY TO PEERS

The Unanimous Group condition contains data relevant to the controversy about change in conformity over age. Due to the presence of sex interactions with grade on visual and delay of gratification items, trend analysis were performed separately for each sex. Figures 1 and 2 present mean conformity over age for males and females, respectively. Table 2 summarizes results of trend analyses of these means. It should be noted that wide differences

Table 1

Analysis of Variance of Mean Conformity Scores

		Visual Items		Opinion Items		Delay of Gratification Items	
Source	df	MS	F	MS	F	MS	F
Grade (G)	3	4.30	10.55****	12.75	18.90***	4.78	3.35**
Condition (C)	2	3.47	8.50***	10.42	15.44***	10.57	7.41****
Sex (S)	1	.17	---	.36	---	.604	---
G X C	6	.76	1.86	2.95	4.37***	1.21	---
G x S	3	.77	1.90	.32	---	6.52	4.57***
C x S	2	1.75	4.29**	.64	---	.32	---
G x C x S	6	.16	---	1.15	1.67	3.35	2.35*
MSE	343	.41		.67		1.42	

*$p < .05$
**$p < .025$
***$p < .005$
****$p < .001$

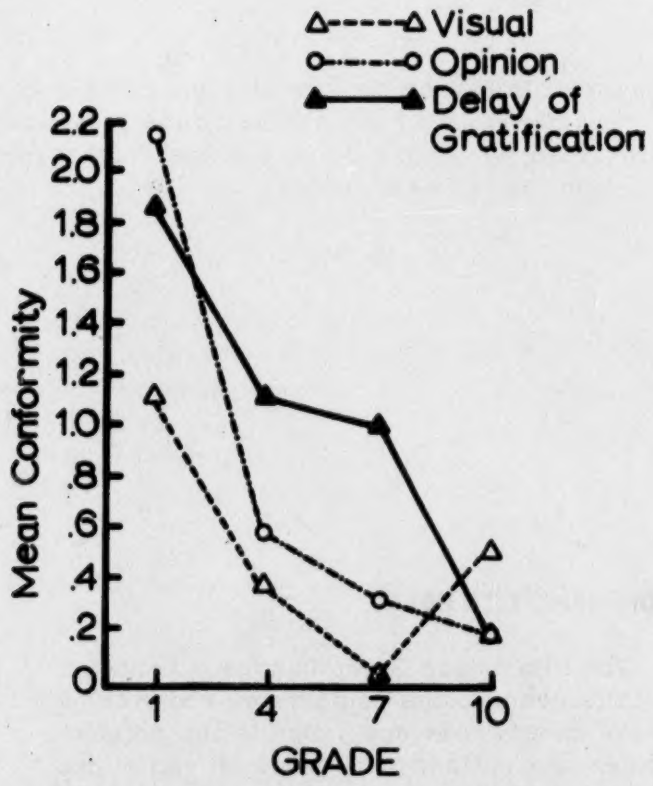

Fig. 1. Male Conformity to Peers by Age

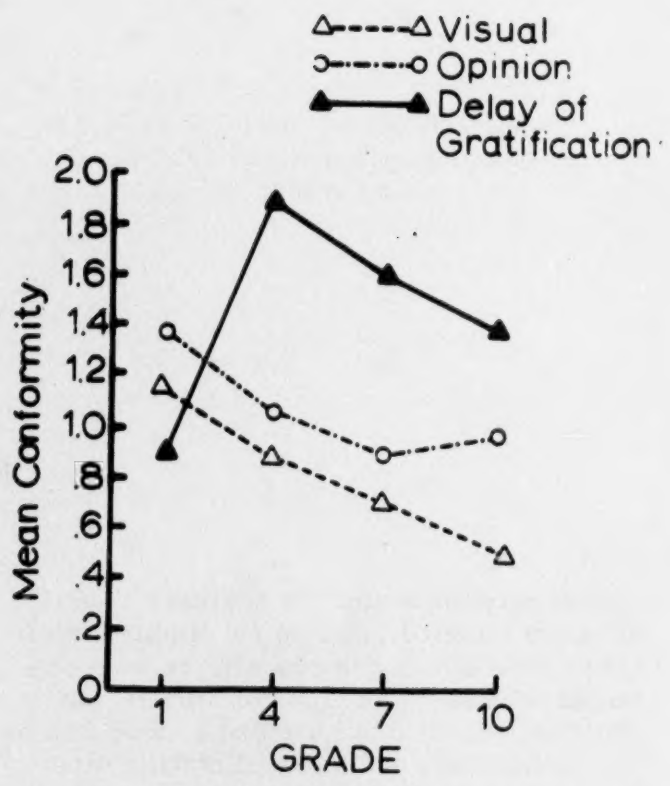

Fig. 2. Female Conformity to Peers by Age

in variance were observed for the three types of items in the Unanimous Group condition: .538 for visual items; 1.08 for opinion items; and 1.59 for delay of gratification items.

As shown in Figure 1, conformity on visual and opinion items decreased for males from the First to the Seventh Grade, and then increased slightly at the Tenth Grade. Trend analysis yielded significant quadratic effects for male conformity on visual ($p < .001$) and opinion items ($p < .025$). Conformity on visual judgments also yielded a linear component of marginal statistical significance ($p < .10$). Trend analysis of conformity on delay of gratification preferences failed to detect any significant components.

Mean differences in conformity across age for males were tested by the Newman-Keuls technique of multiple comparisons (Winer, 1962). Statistically significant differences in conformity was found on visual judgments between the First and Fourth Grades ($p < .01$), between the First and Seventh Grades ($p < .01$), and between the First and Tenth Grades ($p < .05$). On opinion statements, conformity for First Grade males was significantly different from the Fourth Grade ($p < .05$) and Seventh Grade males ($p < .05$). Differences between mean conformity in the Tenth Grade and the other grades were not significant.

For females, conformity showed slight decreases over age on visual and opinion items (Figure 2). Trend analyses failed to yield any significant components for visual, opinion, or delay of gratification items (Table 2).

SOCIAL SUPPORT

Table 3 presents mean conformity reduction produced by the presence of social support at each of the four ages studied. Data in Table 3 represent the mean difference between conformity in the Unanimous condition and in the Social Support condition. Larger numbers indicate more independence, i.e., greater reduction in conformity. Social support significantly reduced conformity on opinion items at all age levels. Results for visual and delay of gratification items were less consistent. Conformity reduction on visual items failed to reach acceptable levels of statistical significance for Fourth, Seventh, and Tenth Grade males, and for Seventh and Tenth Grade females. On delay of gratification items, social support failed to yield significant conformity reduction for Fourth and Tenth Grade males, and for First and Tenth Grade females.

Two lines of evidence suggest, however, that inconsistencies in these results reflect a "bottoming" effect of conformity in the Unanimous Group condition. First, examination of the Unanimous Group curves (Figures 1 and 2) will confirm that without exception social support fails to reduce conformity significantly only at the lowest points on the curves. If social support fails to yield significant conformity reduction at a given level of conformity, it also fails at all other points below that level. Second, means tests within the Social Support condition failed to yield a single significant, or nearly significant, differ-

ence across age. Therefore, the low level of conformity produced by social support does not change significantly across age. This evidence supports the assertion that failure of social support to reduce conformity significantly in the present data simply reflects the presence of levels of conformity so low that further reduction is not detectable.

Table 2

Trend Analysis of Unanimous Group Influence by Age for Males and Females

	df		Visual F		Opinion F		Delay of Gratification F	
	M	F	M	F	M	F	M	F
Linear	1/68	1/63	3.15*	1.66	1.05	.78	1.98	.53
Quadratic	1/68	1/63	12.50***	.43	6.01**	1.17	2.59	2.65
Cubic	1/68	1/63	.98	.13	.11	.06	1.60	.55
MSE			.31	.82	.999	1.13	1.74	1.46

*p < .10 **p < .025 ***p < .001

Table 3

Mean Conformity Reduction by Social Support Across Age

Grade		Type of Item: Visual	Opinion[1]	Delay of Gratification
1	Males	.45*	.83***	1.62***
	Females	.80***		.01
4	Males	.24	.59***	.31
	Females	.40**		.84**
7	Males	.01	.30*	.69*
	Females	.26		.68*
10	Males	.24	.64***	.22
	Females	.20		.48

*p < .05 **p < .01 ***p < .005

NOTE:
Data represent the mean difference between the Unanimous Group and Social Support condition. Fisher's LSD technique was used to test differences. All tests are one-tailed.

[1] Data were combined across sex due to lack of significant sex interactions in analyses of various opinion items.

ADULT INFLUENCE

Table 4 presents results of trend analyses performed for each sex on adult influence scores. Means for males and females are presented graphically in Figures 3 and 4, respectively. Visual items yielded significant quadratic trends for males and for females ($p < .05$ for both). Adult influence decreased sharply for the First to the Fourth Grade, and then increased slightly in the Tenth Grade. Tests of means indicated that both quadratic trends reflected the steep decline of influence from the First to Fourth Grades; the First Grade in both cases differed significantly from the other grades, which did not differ significantly from each other.

A similar pattern of adult influence appeared for opinion items, but even more strongly. Female data showed a strong quadratic component ($p < .001$), with nonsignificant linear and cubic components. Adult influence declined to a

Table 4

Trend Analysis of Adult Influence
by Age for Males and Females

	df		Visual F		Opinion F		Delay of Gratification F	
	M	F	M	F	M	F	M	F
Linear	1/52	1/49	2.66	2.81*	7.71***	3.68*	1.90	.12
Quadratic	1/52	1/49	6.14**	5.97**	8.92***	12.78***	.26	1.39
Cubic	1/52	1/49	.06	1.54	1.28	.68	.61	1.17
MSE			.503	.33	.48	.43	1.60	1.42

*$p < .10$ **$p < .05$ ***$p < .01$

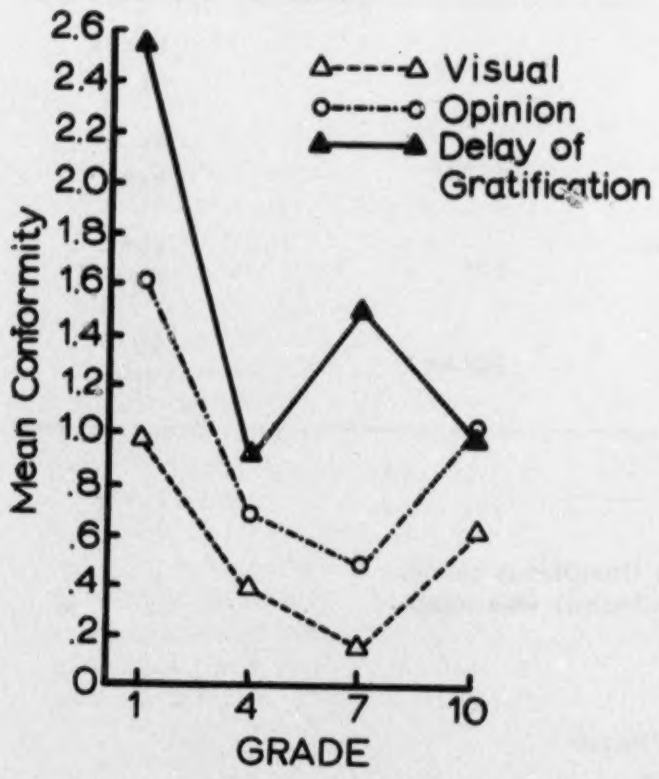

Fig. 3. Adult Influence by Age for Males

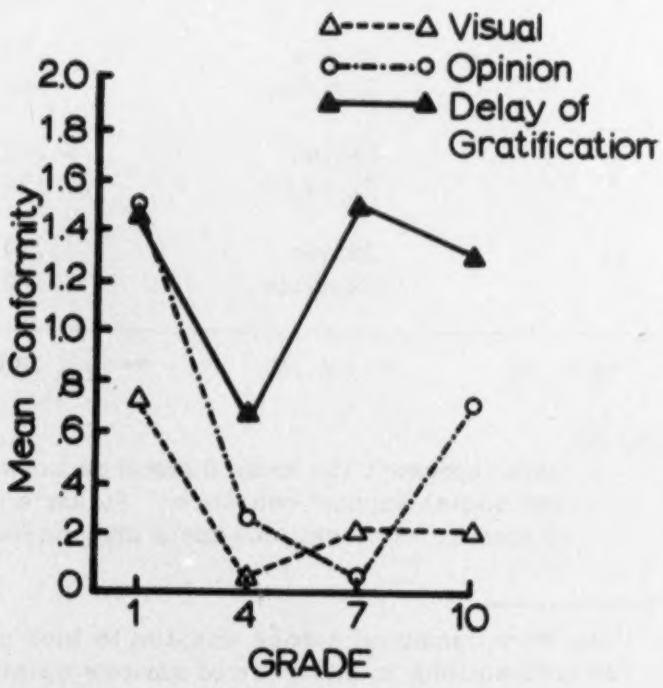

Fig. 3. Adult Influence by Age for Females

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low level from the First to Fourth Grades, remained low through the Seventh Grade, and then rose slightly at the Tenth Grade. Male data showed significant linear and quadratic components ($p < .01$ for both). Effects of adult influence on male opinion statements declined from a higher level in the First Grade than for females, and failed to show the slight rise in the Tenth Grade that appeared in the female data. The significant quadratic component appears to reflect the precipitous drop in influence from the First to the Fourth Grade; the significance of the linear component is apparently due to the continuing decrease.

As in the Unanimous Group condition, large variability occurred with delay of gratification items. Despite large mean differences on these items, especially for males, no significant trends were detected.

POSTEXPERIMENTAL QUESTIONNAIRE

Open-ended responses from the postexperimental questionnaire were coded and Chi-Squares (Siegel, 1956) were computed for the resulting frequencies within each condition across the four grades.

Questions assessing liking for the task and subjects' perception of the task as hard or easy produced uniform responses throughout the sample; subjects liked the task and found it easy. Frequencies in the categories "Disliked Task" and "It was Hard" were too small for Chi-Square analysis. In addition, nearly all subjects reported finding that their answers had differed from those of their group's or (in the Adult Influence condition) teacher's.

Costanzo and Shaw (1966) reported a close relation between amount of conformity and self- or other-attribution of reason for disagreement with the pressure group. They found a strong positive correlation between conformity and blame of self for disagreement. In the present study, reasons given for disagreement with the majority were coded into four categories: (1) Self Blame. For example, "I was wrong", and "I couldn't see well"; (2) Other Blame. For example, "They were crazy", and "They were goofing off"; (3) People Disagree. For example, "Different people see things differently," and "They have their opinions, I have mine"; and (4) Don't Know and Unclassifiable. In contrast to Costanzo's and Shaw's (1966) finding, self-blame responses were so few as to require combining with the miscellaneous category for analysis.

In the Unanimous Group condition, responses increased with age for the category People Disagree: 35% of First Grade and 73% of Tenth Grade responses were in this category ($\chi^2 = 13.22$; $df/6$; $p < .05$). In the Adult Influence condition, however, responses increased with age for the Other Blame category. Only 3% at the First Grade said their teacher was wrong, but 37% at Fourth Grade, 60% at Seventh Grade, and 63% at Tenth Grade ($\chi^2 = 17.2$; $df/6$; $p < .01$).

Another question asked subjects how they thought the group had reacted to them. Older subjects decreasingly gave a simple "They thought I was wrong" attribution in both the Unanimous Group and Social Support conditions. Frequency of this category declined from about 50% in the First Grade to 15% in the Tenth Grade ($\chi^2 = 16.31$, $df/6$, $p < .02$ for Unanimous Group; $\chi^2 = 12.01$, $df/6$, $p < .10$ for Social Support).

Subjects in the Social Support condition were asked, (a) if they perceived the partner's agreement, (b) if so, could they identify him by number, and (c) to give a reason for that agreement. Results indicated that subjects were aware of agreeing more often with one person uniformly across age ($\chi^2 = 14.10$; $df/6$; $p < .05$), although younger subjects had difficulty remembering who he was. Reasons given for the partner's agreement suggested that older subjects were more aware of the implications of pressure on the opinion and delay of gratification items than younger subjects. Frequency of responses in the category "We Think the Same, or We are Similar" increased continuously across grades, going from 29% in the First Grade to 76% in the Tenth ($\chi^2 = 20.15$; $df/6$; $p < .01$).

A final question assessed suspicion of the experimental deception. A lenient criterion of suspicion was adopted—responses identifying the purpose of the experiment as being, "To test for the influence of others," for example, was classified as suspicious. A total of only eight somewhat suspicious subjects were identified in the Unanimous Group and Social Support conditions combined, and seven of these were in the Tenth Grade. The Adult Influence condition fared much worse in the Tenth Grade, with 43% of the subjects classified as suspicious. Interestingly, all but two of them were female. Whether this reflected a significant increase in feminine intuition or a growing cynicism concerning adults could not be ascertained. In any case, results of adult influence on Tenth-Grade females should be approached with caution.

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IV
DISCUSSION

For visual and opinion items results of the present experiment were quite clear concerning trends across age for peer group pressure, social support, and adult influence. Conformity to unanimous peer-group influence decreased over age, though reaching significance only for males. This finding strongly supports the data reported by Hoving, Hamm, and Galvin (1969). The continuous decrease through Grades One, Four, and Seven is entirely consistent with their data for Grades Two, Five, and Eight on unambiguous tasks. Present results showed further that having the social support of a partner produced nonconformity at all age levels. The data also revealed clearly that the effect of adult influence decreased sharply over age for both sexes. Results indicating the weak impact of adults on the older children in our sample (Grades 7 and 10) are consistent with findings of other studies (Bowerman & Kinch, 1959; Coleman, 1961). Finally, our data showed no significant age trends as a function of peer or adult pressure on delay of gratification items, though social support did reduce conformity on these items.*

STAGE-TRAIT HYPOTHESES

The generally accepted explanations of age changes in conformity have been based on stage conceptions: degree of "influenceability" is supposedly determined by which stage the child has reached. Costanzo and Shaw (1966) and Hartup (1970) have interpreted Piaget's (1932) stage theory of moral development as accounting for the observed curvilinear relation between age and conformity. They posit that children pass from an egocentric stage to a stage of absolute conformity to social norms, and finally to a more mature and relativistic conception of norms. Another stage-trait conception has been advanced by Hoving, et al. (1964), to explain developmental changes in conformity. They assume that two motives ("need to be correct" and "need for peer approval") both increase with age. Data from the present study have relevance to these stage-trait theories of conformity development.

Results of the present study showed the same pattern of conformity to peers across age for types of items differing greatly in stimulus ambiguity: objectively verifiable visual items

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*It should be noted that the large variability of opinion and delay of gratification items, as compared to visual items, is in part artifactual. Six critical (pressure) visual items were used, while only three each of the other types of items were used for pressure trials. Conformity on visual items should have been, therefore, more stable. Even so, this does not account for the large variability on delay of gratification items. One possible reason for this extreme variability may be that preferences are unstable as objects of social influence, due to the absence of physical or social referents. Crutchfield (1955) failed to find conformity on personal preferences, and attributed this failure to the extreme subjectivity and isolation from group standards of these judgments. Allen and Levine (1970) did obtain conformity on preferences, but found widely differing variability for different types of preference stimuli.

and subjective opinion items. An implication of the parallel results for visual and opinion items clarifies the Hoving, et al. (1969), definition of ambiguity and poses some difficulty for their theory. Decrease in conformity over age appears not to be a function of stimulus ambiguity (i.e., the clarity with which the group's position differs from the objectively correct alternative), but rather to be a function of "social ambiguity"—the clarity with which the group's position differs from the subject's own position. Age trends may therefore reflect differences in norm structure (i.e., social ambiguity), rather than developmental changes in the "need to be correct" and the "need for approval." When norms are clearly defined and generally agreed upon, deviation is more readily recognizable and conformity pressure more easily exerted. Thus, given equivalent ambiguity of social norms across age, level of conformity might not change. The present observed decrease in conformity over age may reflect the existence of more ambiguous norms; that is, norms having a less universal and less absolute quality.

The increase in conformity to peers in Tenth Grade males is also relevant to developmental or stage theories. Despite failure to reach significance, this finding is consistent with research on adults. Adults conform considerably more than did Eighth Graders in this study. An increase toward adult levels of conformity in the oldest group, therefore, is reasonable in view of other data. Hoving, et al. (1969), did not include subjects older than Grade 8, so our data are not inconsistent with their results. It is, however, inconsistent with their explanation in terms of the cumulative development through reinforcement of a "need for accuracy." Iscoe, et al. (1963), reported an increase in male conformity similar to that reported here at the same age levels, although their results at younger ages were inconsistent with present findings.

The preceding comments about an increase in conformity to peers at older ages applies only to male findings. Female conformity decreased slightly over age for both opinion and visual items, but the difference did not approach statistical reliability. Failure to find age trends for females does some damage to a maturational or stage explanation of conformity development. Developmental stages are usually conceived as being independent of sex-typing. That sex-typing may have important consequences for group functioning at these ages is suggested by Vinacke and Gullickson's (1964) study. They demonstrated significant age trends in frequency of coalition formation for males across ages 7-8, 14-16, and 18-22, but failed to find an effect of age for females.

Results from the present experiment for the Unanimous Group condition, then, support neither a reinforcement-nurtured-need explanation, as Hoving, et al. (1969), propose, nor a Piagetian stage explanation as put forth by Costanzo and Shaw (1966) and espoused by Hartup (1970). Results clearly did not show the slightest hint of the type of curvilinear relation between age and conformity (inverted U curve) that would be predicted by these stage theories.

A SITUATIONAL THEORY

As an alternative to stage conceptions for explaining these results, we will advance the hypothesis that age changes in conformity are due to the direct action of situational factors. Several aspects of the present results are consistent with such an analysis. Results for the Social Support condition are compatible with an explanation of social influence in terms of situational factors. The uniform effectiveness of social support (a partner) in reducing conformity indicates that reaction to group pressure is quite similar across age levels. Explanations invoking greater or lesser awareness of the peer group as a reason for different levels of conformity are not consistent with these results (Costanzo & Shaw, 1966; Hamm & Hoving, 1969). Such explanations would have difficulty accounting for both high conformity at lower ages and reduction of conformity to equivalent levels at all ages by social support. Results for adult influence in the present study also indicate the importance of situational factors. The sex difference found in conformity to peers did not appear in the adult pressure condition. Moreover, the age-trend curves for adult and peer pressure were not identical, contrary to what might be expected from a general "influenceability" theory. Age-trends in the female data are particularly interesting in the absence of strong trends for females in the peer influence condition. Whatever the qualitative difference in peer relations that accounts for sex differences in peer influence, such sex differences apparently do not exist in relationship to adult authority.

Two kinds of situational changes related to age can be suggested to account for age differences in conformity: (1) changes in social organization; (2) changes in flexibility and generality of norms. We do not intend to imply that these two factors encompass all the situational variables that may be differentially

associated with age. But these two broad factors do seem to include most of the important variables affecting conformity that change systematically across age.

Evidence for changes in social organization across age comes from diverse sources. Hartup (1970) cites evidence indicating several changes that occur through middle childhood: boys increasingly form cliques, cohesiveness of informal groups increases, and rejection based in part on norm-sharing by in-group members "...appears to function as a more powerful determinant of cleavages in older children's groups than in younger peer groups" (p. 375). Vinacke and Gullickson (1964) found that boys were increasingly willing to form coalitions as they got older but that girls maintained an accommodative or non-coalition strategy. Changes such as these in social organization could account for decline in conformity through middle childhood and for increase in conformity at the high school level, as older adolescents begin to be socialized into the broader society.

These changes have important implications for research on conformity development. For example, classrooms from which most subjects for age-trend studies have been drawn may be characterized by increasingly fragmented social organization at older ages. Pressure-group members are thus more likely to be members of out-groups; or, at the least, they are less likely to be members of an important reference group. Therefore, obtained age-trends in conformity may not reflect age differences in "influenceability." Instead, such curves could be due to inadvertent changes in characteristics of the pressure group across age created by testing random samples of subjects from classrooms.

The second suggested situational factor accounting for conformity trends over age is change in the flexibility and generality of social norms. Piaget's theory implies two basic, related changes in children's understanding of social norms. One change is from a rigid, literal, highly explicit conception to a more relativistic and flexible conception of norms. A second and closely related change is in learning that norms are essentially contractual, mutually held agreements applying only to the persons involved, instead of being absolute and universally applicable rules. These changes bear directly upon the "social ambiguity" notion advanced earlier. The effect of both of these changes is to increase social ambiguity through middle childhood. With increasing flexibility of norm conception, recognition of deviation becomes less clear and certain for both actor and audience; with decreasing generality of norm conception, the relationship between the audience and the specific norm may become a more important determinant of the effectiveness of conformity pressure.

Some of our post-experimental data suggest that changes occur in the child's conception of the meaning of consensus and dissent in groups. Our older subjects seemed to tolerate differences with their peers and expected this tolerance to be reciprocated. One post-experimental question was, "What do you think the others thought of you when you disagreed with them?" With increasing age, the answer, "They thought I was wrong," decreased in frequency. This decline paralleled the increase over age in attributions such as, "Other people disagree." [That 50% of First Grade subjects did make a common attribution of what others thought of them indicates that at this age children are highly aware of group pressure and its consequences.]

Our data also suggest that the child's conception of peer-group norms differs from that of the adult pressure group. Reasons subjects gave for disagreement with peer pressure became increasingly "realistic" with increase in age, e.g., "Different people can be expected to disagree." This kind of attribution was not given as a reason for disagreement with adult authorities. Instead, there was an increasing tendency for older subjects to be critical of adults (or at least teachers) and to reject the influence source as "wrong" or "not serious." Perhaps the greater acceptance of disagreement from peers than from adults at older ages is the result of greater knowledge concerning peer-group than adult norms.

The situational theory presented above stresses that age differences in conformity are directly mediated by social organization and by norm structure. Although these two factors in turn may be affected by maturational factors, of more direct impact on social organization and norm structure are environmental factors only fortuitously or coincidentally connected with age. For example, children from several neighborhood elementary schools usually all attend the same large central school for the last years of high school. This change would very likely affect both social organization and norm structure. That such a change from one school to another occurs at a particular age is not, of course, integrally related to the appearance of any critical maturational stage. Other situational factors will likewise be tied to age merely as the result of cultural traditions or convenience. We suggest, however, that situational factors are the critical determinants of level of conformity, instead of age or developmental stage, per se.

It seems unlikely that age-trend studies can extend our understanding of peer influence much further. Situational variables are clearly important determinants of conformity at any age. Since situational variables are intricately embedded in the cultural and social environment, direct investigation of the changing terrain of the social structure across age levels will be necessary to clarify the nature of conformity development.

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